

## **CLAIMS**

- An isolated nucleic acid comprising a polynucleotide sequence of SEQ ID NO: 10, or of a complementary polynucleotide sequence.
- An isolated nucleic acid comprising at least eight consecutive nucleotides of a polynucleotide sequence of SEQ ID NO: 10, or of a complementary polynucleotide sequence.
- An isolated nucleic acid comprising at least 80% nucleotide identity with a nucleic acid comprising SEQ ID NO: 10, or a complementary polynucleotide sequence. 10
  - 4. The isolated nucleic acid according to claim 3, wherein the nucleic acid comprises an 85%, 90%, 95%, or 98% nucleotide identity with the nucleic acid comprising SEQ ID NO: 10, or a complementary polynucleotide sequence.
- 5. An isolated nucleic acid that hybridizes under high stringency 15 conditions with a nucleic acid comprising SEQ ID NO: 10, or a complementary polynucleotide sequence.
  - 6. An isolated nucleic acid comprising a polynucleotide sequence as depicted in SEQ ID NO: 10, or of a complementary polynucleotide sequence.
- 7. A nucleotide probe or primer specific for an ngn3 nucleic acid, 20 wherein the nucleotide probe or primer comprises at least 15 consecutive nucleotides of a polynucleotide sequence of SEQ ID NO: 10, or of a complementary polynucleotide sequence.
  - 8. The nucleotide probe or primer according to claim 7, wherein the nucleotide probe or primer comprises a marker compound.
    - <u>ģ</u>. A nucleotide probe or primer specific for an ngn3 nucleic acid, wherein the nucleotide probe or primer comprises SEQ ID NO: 10, or of a complementary polynucleotide sequence.
      - 10. The nucleotide probe or primer according to claim 9, wherein the

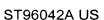
nucleotide probe or primer comprises a marker compound.

- 11. A method of amplifying a region of the nucleic acid according to claim 1, wherein the method comprises:
- a) contacting the nucleic acid with two nucleotide primers, wherein the first nucleotide primer hybridizes at a position 5' of the region of the nucleic acid, and the second nucleotide primer hybridizes at a position 3' of the region of the nucleic acid, in the presence of reagents necessary for an amplification reaction; and
  - b) detecting the amplified nucleic acid region.
- 12. The method according to claim 11, wherein the two nucleotide primers are selected from the group consisting of
  - a) a nucleotide primer comprising at least 15 consecutive nucleotides of a polynucleotide sequence of SEQ ID NO: 10, or of a complementary polynucleotide sequence, and
- b) a nucleotide primer comprising a polynucleotide sequence of SEQ ID NO: 10, or of a complementary polynucleotide sequence.
  - 13. A kit for amplifying the nucleic acid according to claim 1, wherein the kit comprises:
  - a) two nucleotide primers whose hybridization position is located respectively 5' and 3' of the region of the nucleic acid; and optionally,
- b) reagents necessary for an amplification reaction.
  - 14. The kit according to claim 13, wherein the two nucleotide primers are selected from the group consisting of
  - a) a nucleotide primer comprising at least 15 consecutive nucleotides of a polynucleotide sequence of SEQ ID NO: 9, or of a complementary polynucleotide sequence, and
  - b) a nucleotide primer comprising a polynucleotide sequence of any one of SEQ ID NOs: 9, 11, 12, 14, 15, 16, 17, 18, 19, 21, 23, 24, 25, or of a complementary polynucleotide sequence.
- 15. A method of detecting a nucleic acid according to claim 1, wherein 30 the method comprises:

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- a) contacting the nucleic acid with a nucleotide probe selected from the group consisting of
- 1) a nucleotide probe comprising at least 15 consecutive nucleotides of a polynucleotide sequence of SEQ ID NO: 9, or of a complementary polynucleotide sequence, and
- 2) a nucleotide probe comprising a polynucleotide sequence of any one of SEQ ID NOs: 9, 11, 12, 14, 15, 16, 17, 18, 19, 21, 23, 24, 25, or of a complementary polynucleotide sequence, and
- b) detecting a complex formed between the nucleic acid and the probe.
- 16. The method of detection according to claim 15, wherein the probe is immobilized on a support.
  - 17. A kit for detecting the nucleic acid according to claim 1, wherein the kit comprises
    - a) a nucleotide probe selected from the group consisting of
  - 1) a nucleotide probe comprising at least 15 consecutive nucleotides of a polynucleotide sequence of SEQ ID NO: 9, or of a complementary polynucleotide sequence, and
    - 2) a nucleotide primer comprising a polynucleotide sequence of any one of SEQ ID NOs: 9, 11, 12, 14, 15, 16, 17, 18, 19, 21, 23, 24, 25, or of a complementary polynucleotide sequence, and optionally,
    - b) a reagent necessary for a hybridization reaction.
  - 18. The kit according to claim 17, wherein the probe is immobilized on a support.
- 19. A recombinant vector comprising the nucleic acid according to claim 1.
  - 20. The recombinant vector according to claim 19, wherein the recombinant vector is an adenovirus.
  - 21. A recombinant vector comprising the nucleic acid according to claim 6.
- The recombinant vector according to claim 21, wherein the

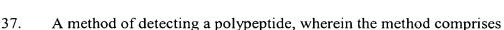




recombinant vector is an adenovirus.

- 23. A recombinant host cell comprising the nucleic acid according to claim 1.
- 24. A recombinant host cell comprising the nucleic acid according to claim 6.
  - 25. A recombinant host cell comprising the recombinant vector according to claim 19.
  - 26. A recombinant host cell comprising the recombinant vector according to claim 21.
- An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence of SEQ ID NO: 10.
  - 28. A recombinant vector comprising the nucleic acid according to claim 27.
- 29. A recombinant host cell comprising the recombinant vector according to claim 28.
  - 30. A recombinant host cell comprising the nucleic acid according to claim 27.
  - 31. An isolated polypeptide comprising an amino acid sequence of SEQ ID NO: 10.
- 20 32. An antibody directed against the isolated polypeptide according to claim 31.
  - 33. The antibody according to claim 32, wherein the antibody comprises a detectable compound.
- 34. An isolated polypeptide comprising an amino acid sequence as depicted in SEQ ID NO: 10.
  - 35. An antibody directed against the isolated polypeptide according to claim 34.
  - 36. The antibody according to claim 35, wherein the antibody comprises a detectable compound.

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- a) contacting the polypeptide with an antibody according to claim 32; and
- b) detecting an antigen/antibody complex formed between the polypeptide and the antibody.
- 38. A diagnostic kit for detecting a polypeptide, wherein the kit comprises
  - a) the antibody according to claim 32; and
- b) a reagent allowing detection of an antigen/antibody complex formed between the polypeptide and the antibody.
- 10 39. A pharmaceutical composition comprising the nucleic acid according to claim 1 and a physiologically compatible excipient.
  - 40. A pharmaceutical composition comprising the nucleic acid according to claim 6 and a physiologically compatible excipient.
- 41. A pharmaceutical composition comprising the recombinant vector according to claim 19 and a physiologically compatible excipient.
  - 42. A pharmaceutical composition comprising the recombinant vector according to claim 21 and a physiologically compatible excipient.
  - 43. A pharmaceutical composition comprising the nucleic acid according to claim-27 and a physiologically compatible excipient.
  - 44. A pharmaceutical composition comprising the recombinant vector according to claim 28 and a physiologically compatible excipient.
    - 45. A pharmaceutical composition comprising the recombinant host cell according to claim 29 and a physiologically compatible excipient.
- 46. A pharmaceutical composition comprising the recombinant host cell according to claim 30 and a physiologically compatible excipient.
  - 47. A pharmaceutical composition comprising the polypeptide according to claim 31 and a physiologically compatible excipient.
  - 48. A pharmaceutical composition comprising the polypeptide according to claim 34 and a physiologically compatible excipient.
- 30 49. Use of the nucleic acid according to claim 1 for the manufacture of

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a medicament intended for the prevention or treatment of a nervous system dysfunction.

- 50. Use of the nucleic acid according to claim 6 for the manufacture of a medicament for the prevention or treatment of a platelet activation dysfunction.
- 51. Use of the recombinant vector according to claim 19 for the manufacture of a medicament for the prevention or treatment of a nervous system dysfunction.
- 52. Use of the recombinant vector according to claim 21 for the manufacture of a medicament intended for the prevention or treatment of a nervous system dysfunction.
- 53. Use of the nucleic acid according to claim 27 for the manufacture of a medicament for the prevention or treatment of a nervous system dysfunction.
- 54. Use of the recombinant vector according to claim 28 for the manufacture of a medicament for the prevention or treatment of a nervous system dysfunction.
- 55. Use of the recombinant host cell according to claim 29 for the manufacture of a medicament for the prevention or treatment of a nervous system dysfunction.
- 56. Use of the recombinant host cell according to claim 30 for the manufacture of a medicament for the prevention or treatment of a nervous system dysfunction.
  - 57. Use of the polypeptide according to claim 31 for the manufacture of a medicament intended for the prevention or treatment of a nervous system dysfunction.
- 25 58. Use of the polypeptide according to claim 31 for screening an active ingredient for the prevention or treatment of a nervous system dysfunction.
  - 59. Use of a recombinant host cell expressing the polypeptide according to claim 31 for screening an active ingredient for the prevention or treatment of a nervous system dysfunction.

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- 60. An implant comprising the recombinant host cell according to claim 23.
- 61. An implant comprising the recombinant host cell according to claim 25.
- 62. An implant comprising the recombinant host cell according to claim 29.
- 63. A method of identifying a modulator, agonist, or antagonist of a polypeptide according to the invention in a sample comprising
- a) obtaining a cell, for example a cell line, that, either naturally or after transfecting the cell with a nucleic acid encoding a polypeptide according to the invention, expresses a polypeptide according to the invention,
  - b) transfecting the cell with a nucleic acid encoding a marker gene,
  - c) incubating the cell of step b) with a test solution or sample comprising a potential modulator, agonist or antagonist,
    - d) measuring the amount of  $\beta$ -galactosidase activity, and
  - e) comparing the amount of  $\beta$ -galactosidase activity measured in step d) with an amount of  $\beta$ -galactosidase activity measured with a cell that has not been previously incubated in the presence of the candidate modulator, agonist, or antagonist compound for the polypeptide according to the invention.
- 20 64. The method according to claim 63, wherein the polypeptide comprises an amino acid sequence of SEQ ID NO: 10.
  - 65. The method according to claim 63, wherein the nucleic acid encodes a  $\beta$ -galactosidase ( $\beta$ -gal) marker gene.
- 66. Use of the polypeptide according to claim 31 to control and/or participate in the expression of a gene.